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PTO/SB/21 (08-00)

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# TRANSMITTAL FORM

(To be used for all correspondence after initial filing)

Application Number	10/042,780
Filing Date	January 8, 2002
First Named Inventor	Vandenameele-Lepla, Patrick
Group Art Unit	2631
Examiner Name	Not Yet Assigned
Attorney Docket Number	020798-002100US

Total Number of Pages in This Submission

5

## ENCLOSURES (check all that apply)

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<input type="checkbox"/> After Final	<input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition	<input type="checkbox"/> Proprietary Information
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## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm and Individual name	Townsend and Townsend and Crew LLP Babak S. Sani	Reg. No. 37,495
Signature		
Date	June 4 2002	

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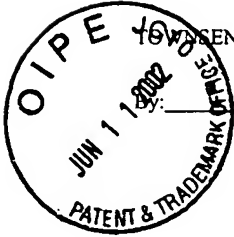
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TOWNSEND and TOWNSEND and CREW LLP

*London Clark*

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Patrick Vandenameele-Lepla

Application No.: 10/042,780

Filed: January 8, 2002

For: METHOD AND APPARATUS FOR  
FREQUENCY-DOMAIN TRACKING  
OF RESIDUAL FREQUENCY AND  
CHANNEL ESTIMATION OFFSETS

Examiner: Not Yet Assigned

Art Unit: 2631

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR §1.97 and  
§1.98

Assistant Commissioner for Patents  
Washington, D.C. 20231


Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Babak S. Sani  
Reg. No. 37,495

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 2

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Application Number	10/042,780
Filing Date	January 8, 2002
First Named Inventor	Vandenameele-Lepla, Patrick
Art Unit	2631
Examiner Name	Not Yet Assigned
Attorney Docket Number	020798-002100US

**U.S. PATENT DOCUMENTS**

Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA	US-5,228,062	07/13/1993	Bingham	
	AB	US-5,282,222	01/25/1994	Fattouche et al.	
	AC	US-5,450,456	09/12/1995	Mueller	
	AD	US-5,487,069	01/23/1996	O'Sullivan et al.	

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**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

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Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AE	BEEK et al., "ML Estimation of Time and Frequency Offset in OFDM Systems," <i>IEEE Trans. on Signal Processing</i> , Vol. 45, No. 7, pp. 1800-1805, (July 1997)	
	AF	BOELCSKEI, "Blind estimation of symbol Timing and Carrier Frequency Offset in Pulse Shaping OFDM Systems," <i>Proc. of IEEE Int. Conf. on Acoustics, Speech and Signal Processing</i> , pp. 2749-2752, Phoenix, AZ, (March 1999)	
	AG	CHANG et al., "A New Estimation Scheme For Frequency and Timing Offsets in OFDM Systems," <i>Proc. of the IEEE Vehicular Technology Conference</i> , pp. 1832-1835, Boston, MA, (September 2000)	
	AH	CLASSEN et al., "Frequency Synchronization Algorithms for OFDM Systems suitable for Communication over Frequency-Selective Fading Channels," <i>Proc. of The IEEE Vehicular Technology Conference</i> , pp. 1655-1659, Stockholm, Sweden, (June 1994)	
	AI	GUNTHER et al., "A New Approach for Symbol Frame Synchronization and Carrier Frequency Estimation in OFDM Communications," <i>Proc. of The IEEE Int. Conf. on Acoustics, Speech and Signal Processing</i> , pp. 2725-2728, Phoenix, AZ, (March 1999)	
	AJ	HWANG et al., "Frequency and Timing Period Offset Estimation Technique for OFDM Systems," <i>Electronics Letters</i> , Vol. 34, No. 6, pp. 520-521, (March 19, 1998)	
	AK	JIN et al., "The Estimation of Time Delay and Doppler Stretch of Wideband Signals," <i>IEEE Trans. on Signal Processing</i> , Vol. 43, No. 4, pp. 904-916, (April 1995)	
	AL	KANG et al., "Decision-directed maximum likelihood estimation of OFDM frame synchronization offset," <i>Electronics Letters</i> , Vol. 30, No. 25, pp. 2153-2154, (December 8, 1994)	
	AM	LAMBRETTE et al., "OFDM Burst Frequency Synchronization by Single Carrier Training Data," <i>IEEE Communications Letters</i> , Vol. 1, No. 2, pp. 46-48, (March 1997)	
	AN	LIM et al., "An Efficient Carrier Frequency Offset Estimation Scheme for an OFDM System," <i>Proc. of the IEEE Vehicular Technology Conference</i> , pp. 2453-2457, Boston, MA, (September 2000)	
	AO	LUISE et al., "Carrier Frequency Acquisition and Tracking for OFDM Systems," <i>IEEE Trans. on Communications</i> , Vol. 44 No. 11, pp. 1590-1598, (November 1996)	

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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 2

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First Named Inventor	Vandenamee-Lepla, Patrick
Art Unit	2631
Examiner Name	Not Yet Assigned
Attorney Docket Number	020798-002100US

### OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	AP	MOOSE et al., "A Technique for Orthogonal Frequency Division Multiplexing Frequency Offset Correction," <i>IEEE Trans. on Communications</i> , Vol. 42 No. 10, pp. 2908-2914, (October 1994)
	AQ	POLLET et al., "Synchronization with DMT Modulation," <i>IEEE Communications Magazine</i> , pp. 80-86, (April 1999)
	AR	RINNE et al., "An Equalization Method for Orthogonal Frequency Division Multiplexing Systems in Channels with Multipath Propagation, Frequency Offset and Phase Noise," <i>IEEE</i> , pp. 1442-1446, (1996)
	AS	SCHMIDL et al., "Blind synchronisation for OFDM," <i>Electronics Letters</i> , Vol. 33, No. 2, pp. 113-114, (January 16, 1997)
	AT	SIMOENS et al., "A New Method for Joint Cancellation of Clock and Carrier Frequency Offsets in OFDM receivers over Frequency Selective Channels," <i>2000 IEEE 51<sup>st</sup> Vehicular Technology Conference Proceedings</i> , pp. 390-394, Tokyo, JAPAN, (May 2000)
	AU	TURELI et al., "Blind Carrier Synchronization and Channel Identification for OFDM Communications," <i>Proc. of IEEE Int. Conf. on Acoustics, Speech and Signal Processing</i> , pp. 3509-3512, Seattle, WA, (May 1998)
	AV	VISSER et al., "A Novel Method for Blind Frequency Offset Correction in an OFDM System," <i>Proc. of the IEEE PIMRC</i> , pp. 816-820, Boston, MA, (September 1998)
	AW	WEI et al., "Synchronization Requirement for Multi-user OFDM on Satellite Mobile and Two-path Rayleigh Fading Channels," <i>IEEE Trans. on Communications</i> , Vol. 43, No. 2, pp. 887-895, (February 1995)

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